ANNOUNCEMENT

- To Register for the Monthly Disease Surveillance Trainings:
  1. Contact your Service Surveillance HUB to receive monthly updates and reminders
  2. Log-on or Request log-on ID/password and register at: https://tiny.army.mil/r/zB8A/CME

  ***NOTE: CMEs are now being offered!!!
- Confirm attendance:
  - Please enter your name/service into the DCO chat box to the left or email your Service HUB
  - You will receive a confirmation email within 48 hours with your attendance record; If you do not receive this email, please contact your Service HUB

Reportable Medical Event Data Usage at Service Surveillance HUBS

Asha Riegodedios, Staff Epidemiologist
Navy and Marine Corps Public Health Center
28 May 2013

Outline

- Background – what makes reportable events data important?
- What do we do, at the Regional and Service level, with the data you report?
- Examples of how we use Reportable Medical Events (RME) data
- How can you access these and other available reports

Background

- Military regulations requiring the reporting of medical events are rooted in federal, national, and international policy
- Monitor select diseases and conditions because of outbreak and/or prevention potential
- Purpose of Reporting Medical Events
  - Ensure timely and adequate response
  - Promote early identification and description of emerging or re-emerging diseases and other threats
  - Estimate: Distribution, Trends, Risks
  - Develop and assess policy, control program and resource allocation

Background

- Today's Climate
  - Focus on leadership visibility and transparency
  - Shift towards surveillance of emerging disease threats
  - Integration of disease surveillance/reporting into emergency preparedness and disaster relief plans
  - Demands of pandemic Influenza preparedness expectations
  - President's biosurveillance initiative
  - Creation of Armed Forces Health Surveillance Center Division of Biosurveillance

Background

- This climate drives our activities and focus
- Is our disease surveillance infrastructure strong?
- Are we prepared for future disease threats?
- Do we know how to find our cases?
- Do we have the necessary ongoing communication set up with various stakeholders (at local, regional and higher levels)
- Are we identifying disease threats as early as possible?

*** We must protect our Forces and their families to the best of our ability

What Happens to the Information You Report?

- Routinely review Medical Event Reports (MERs)
- Conduct Studies: Assess burden, inform policy, drive program change
- Compile programmatic reports

Routine Review of MERs

- AFRESS/DRSi: when you enter a MER, it becomes visible immediately
- Regional public health/Surveillance hubs review these submissions routinely (daily/weekly)
  - Identify events where additional support may be needed beyond local response capabilities
  - Monitor for regional or Service level clusters
  - Maintain Situational Awareness among leaders
- MERs forwarded to Armed Forces Health Surveillance Center for DOD archiving

Compile Programmatic Reports

- AFRESS/DRSi archive current and historical MER data
- Service HUBs analyze these data routinely (monthly, quarterly, annually)
  - To describe what has been reported
  - To monitor metrics: indicative of how well we are doing
  - To identify areas for improvement

Conduct Studies

- AFRESS/DRSi: archive of current and historical MERs
- Link MERs data to other datasets
- Mostly descriptive
- Service HUBs conduct numerous studies regularly:
  - To track changes in disease epidemiology, effectiveness of specific control measures
  - To describe and/or monitor disease burden, examine trends
  - To inform policy change discussions
  - To facilitate program or practice changes
  - To work with SMEs to generate hypotheses – advocate for conduct of more robust studies

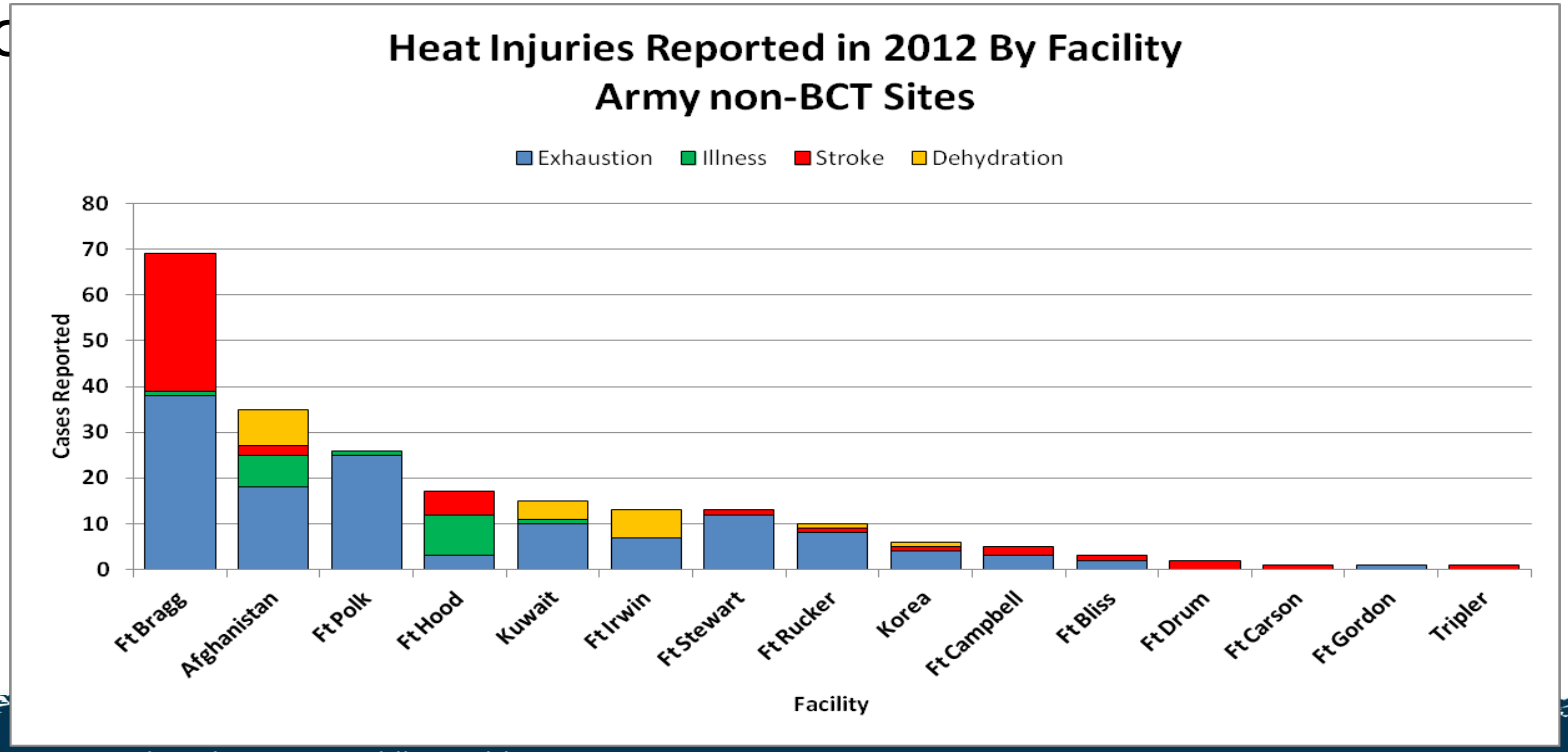
Example #1: Daily Review of What has been Reported

- Review of all recent MERs to identify what may need some action at the regional or higher level
- We pay attention to ALL details in the report. It is important to fill out the additional questions related to the diagnosis.

FMP	Sponsor Service	Sponsor Duty Station	Diagnosis	Date of Visit	Command
20	Marine Corps	Active Duty	Hepatitis A (	4/11/2013	NAVHOSP
20	Navy	Retired	Hepatitis A (	4/12/2013	NAVHOSP
20	Marine Corps	Active Duty	Hepatitis A (	4/12/2013	NAVHOSP
20	Navy	Active Duty	Hepatitis A (	4/15/2013	NAVHOSP
20	Marine Corps	Active Duty	Hepatitis A (	4/18/2013	NAVHOSP

Example #2: Identify Events in Need of Higher Level Attention

- This below example used RME data from DRSi to capture a picture of heat illnesses in the Army. Due to the diligent work by local epi-tech and nurses at Army MTFs, we were able to accurately identify a c



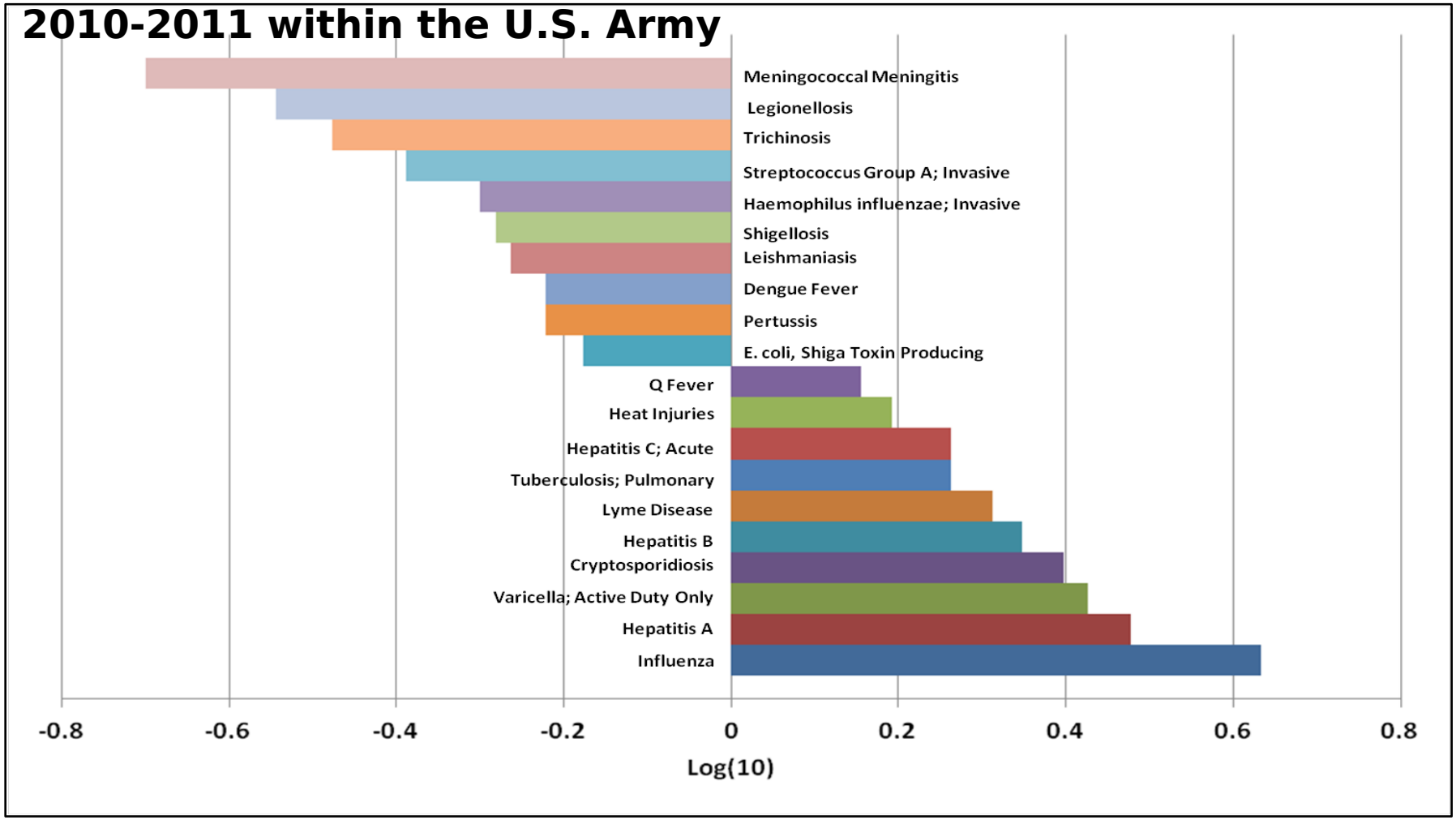
Example #3: Describe What has been Reported

Table 1. Frequency of Medical Event Report Submissions in Naval DRSi by Diagnosis, January-March 2013, Navy and Marine Corps Active Duty and Recruits

DISEASE	TOTAL	USN	USMC	DISEASE	TOTAL	USN	USMC
Amebiasis [1]	0	0	0	Malaria (all) [1]	3	2	1
Anthrax [1]	0	0	0	Measles [1]	0	0	0
Botulism [1]	0	0	0	Meningococcal disease	0	0	0
Brucellosis	0	0	0	Mumps	0	0	0
Campylobacter infection [1]	9	8	1	Norovirus	1	0	1
Chlamydia trachomatis, genital infections	1,514	911	603	Pertussis [1]	1	1	0
Cholera	0	0	0	Plague [1]	0	0	0
Coccidioidomycosis	3	2	1	Poliomyelitis [1]	0	0	0
Cold weather injuries	9	0	9	Q Fever [1]	0	0	0
Cryptosporidiosis [1]	0	0	0	Rabies, human [1]	0	0	0
Cyclospora infection [1]	0	0	0	Relapsing fever	0	0	0
Dengue fever [1]	0	0	0	Rheumatic fever (acute)	0	0	0
Diphtheria	0	0	0	Rift Valley fever	0	0	0
E. Coli, shiga-toxin producing (includes 0157:H7) [1]	0	0	0	Rocky-Mountain Spotted Fever	0	0	0
Ehrlichiosis/Anaplasmosis	0	0	0	Rubella [1]	0	0	0
Encephalitis, arboviral [1]	0	0	0	Salmonellosis [1]	2	0	2
Filariasis	0	0	0	Schistosomiasis	0	0	0
Giardiasis	3	3	0	Severe Acute Respiratory Syndrome	0	0	0
Gonorrhea	151	102	49	Shigellosis [1]	1	1	0
Haemophilus influenza,							

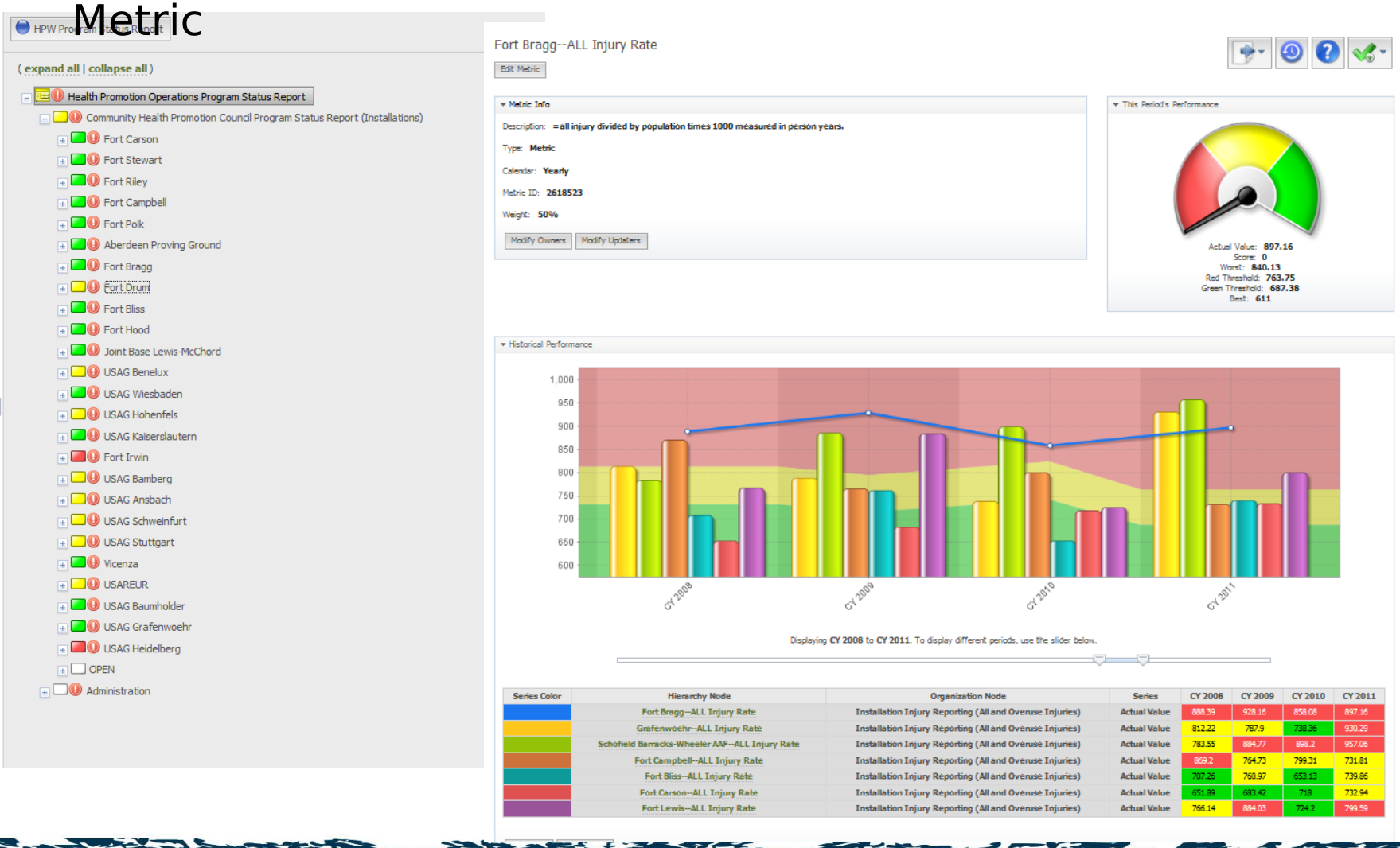
Example #4: Track Changes in Epidemiology

A comparison of Reportable Medical Event Changes from 2010-2011 within the U.S. Army



Example #5: Monitor Metrics

Below is an example of using DRSi reports to track timeliness of reporting. This metric is called EPI02 of the Rapid Improvement Metric


(expand all | collapse all)
Health Promotion Operations Program Status Report
Community Health Promotion Council Program Status Report (Installations)
Fort Carson
Fort Stewart
Fort Riley
Fort Campbell
Fort Polk
Aberdeen Proving Ground
Fort Bragg
Fort Drum
Fort Bliss
Fort Hood
Joint Base Lewis-McChord
USAG Benelux
USAG Wiesbaden
USAG Hohenfels
USAG Kaiserslautern
Fort Irwin
USAG Bamberg
USAG Ansbach
USAG Schweinfurt
USAG Stuttgart
Vicenza
USAREUR
USAG Baumholder
USAG Grafenwoehr
USAG Heidelberg
OPEN
Administration
Fort Bragg--ALL Injury Rate
Edit Metric
Metric Info
Description: =all injury divided by population times 1000 measured in person years.
Type: Metric
Calendar: Yearly
Metric ID: 2618523
Weight: 50%
Modify Owners
Modify Updaters
This Period's Performance
Actual Value: 897.16
Score: 0
Worst: 840.13
Red Threshold: 763.75
Green Threshold: 687.38
Best: 611
Historical Performance
1,000
950
900
850
800
750
700
650
600
CY 2008
CY 2009
CY 2010
CY 2011
Displaying CY 2008 to CY 2011. To display different periods, use the slider below.
Series Color | Hierarchy Node | Organization Node | Series | CY 2008 | CY 2009 | CY 2010 | CY 2011
Fort Bragg--ALL Injury Rate | Installation Injury Reporting (All and Overuse Injuries) | Actual Value | 888.39 | 928.16 | 858.08 | 897.16
Grafenwoehr--ALL Injury Rate | Installation Injury Reporting (All and Overuse Injuries) | Actual Value | 812.22 | 787.9 | 738.36 | 930.29
Schofield Barracks-Wheeler AAF--ALL Injury Rate | Installation Injury Reporting (All and Overuse Injuries) | Actual Value | 783.55 | 884.77 | 898.2 | 957.06
Fort Campbell--ALL Injury Rate | Installation Injury Reporting (All and Overuse Injuries) | Actual Value | 869.2 | 764.73 | 799.31 | 731.81
Fort Bliss--ALL Injury Rate | Installation Injury Reporting (All and Overuse Injuries) | Actual Value | 707.26 | 760.97 | 653.13 | 739.86
Fort Carson--ALL Injury Rate | Installation Injury Reporting (All and Overuse Injuries) | Actual Value | 651.89 | 683.42 | 718 | 732.94
Fort Lewis--ALL Injury Rate | Installation Injury Reporting (All and Overuse Injuries) | Actual Value | 766.14 | 884.03 | 724.2 | 799.59

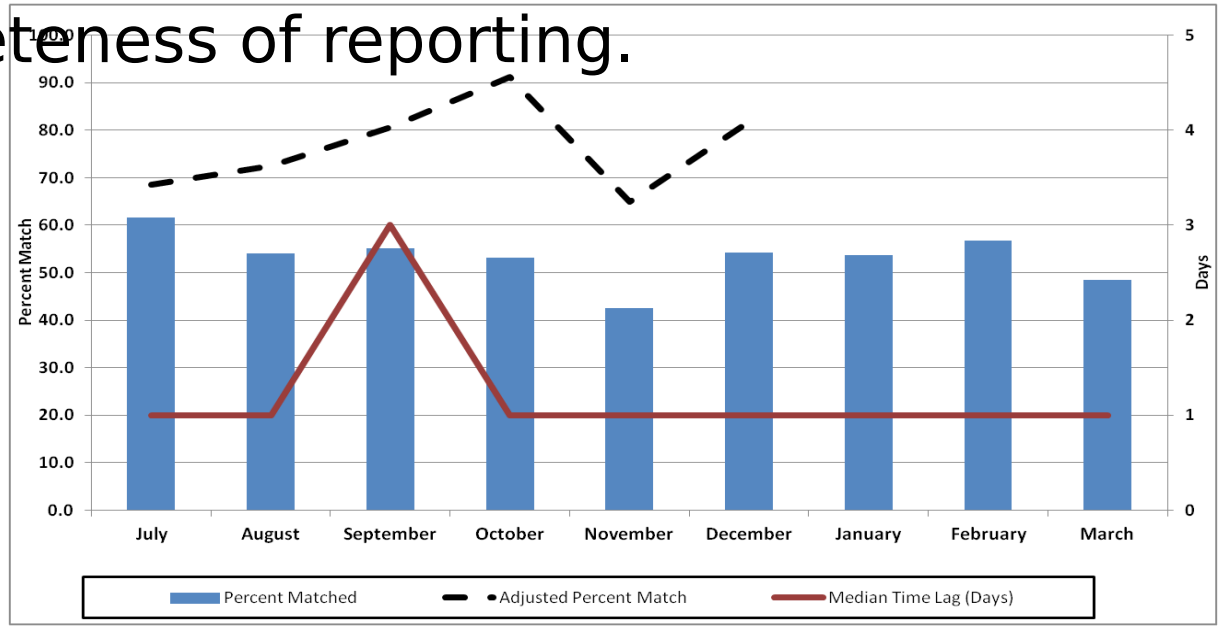
Example #6: Monitor Metrics

- A quarterly report comparing lab results to reported events helps identify MTFs that may benefit from process improvement. Achieving a 70% match is

Reporting Location[¶]	Laboratory Identified Events[¥]	Matching DRSi MER[§¶]	Percent Match
NH [redacted]			
Chlamydia trachomatis, genital infection	27	10	37.0
Gonorrhea	2	1	50.0
TOTAL	29	11	37.9
NH [redacted]			
Chlamydia trachomatis, genital infection	10	7	70.0
Gonorrhea	1	1	100.0
Salmonellosis	1	1	100.0
TOTAL	12	9	75.0
NH [redacted]			
Chlamydia trachomatis, genital infection	17	15	88.2
Gonorrhea	1	0	0.0
TOTAL	18	15	83.3
[redacted]			

Example #7: Monitor Metrics

Below is an example of using DRSi reports to track completeness of reporting.



	IACH		MAMC		TAMC		Overall	
	Mean	95%CI	Mean	95%CI	Mean	95%CI	Mean	95%CI
Method #1	93.6	90.8, 96.3	89.5	83.8, 95.2	56.2	50.8, 61.6	79.8	56.6, 103.0
Method #2	65.0	58.9, 71.1	89.5	84.7, 94.2	53.5	48.5, 58.4	69.3	48.5, 90.1
Adjusted Percent	94.9	92.6, 97.2	92.3	87.2, 97.5	76.5	68.8, 84.4	87.9	76.7, 99.1

Example #8: Track Changes in Epidemiology

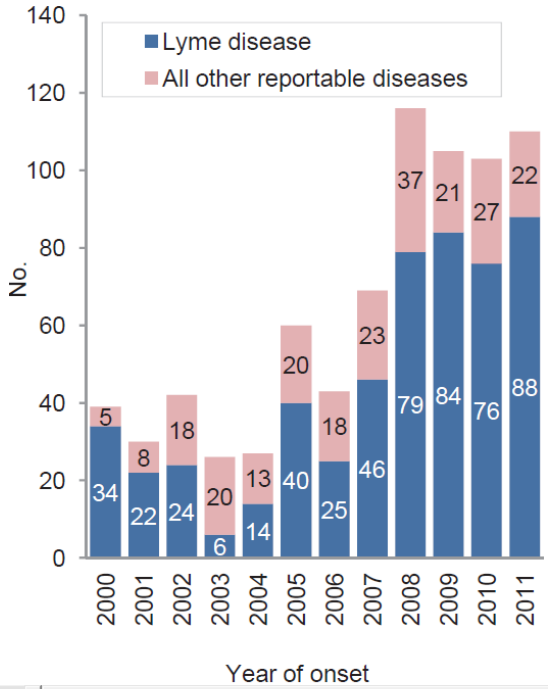
MSMR
OCTOBER 2012
Volume 19
Number 10
MEDICAL SURVEILLANCE MONTHLY REPORT

Reported Vectorborne and Zoonotic Diseases, U.S. Air Force, 2000-2011

Madeline M. Anna, BS; James D. Escobar, MPH; Alice S. Chapman, DVM, MPH (Col, U.S. Air Force)

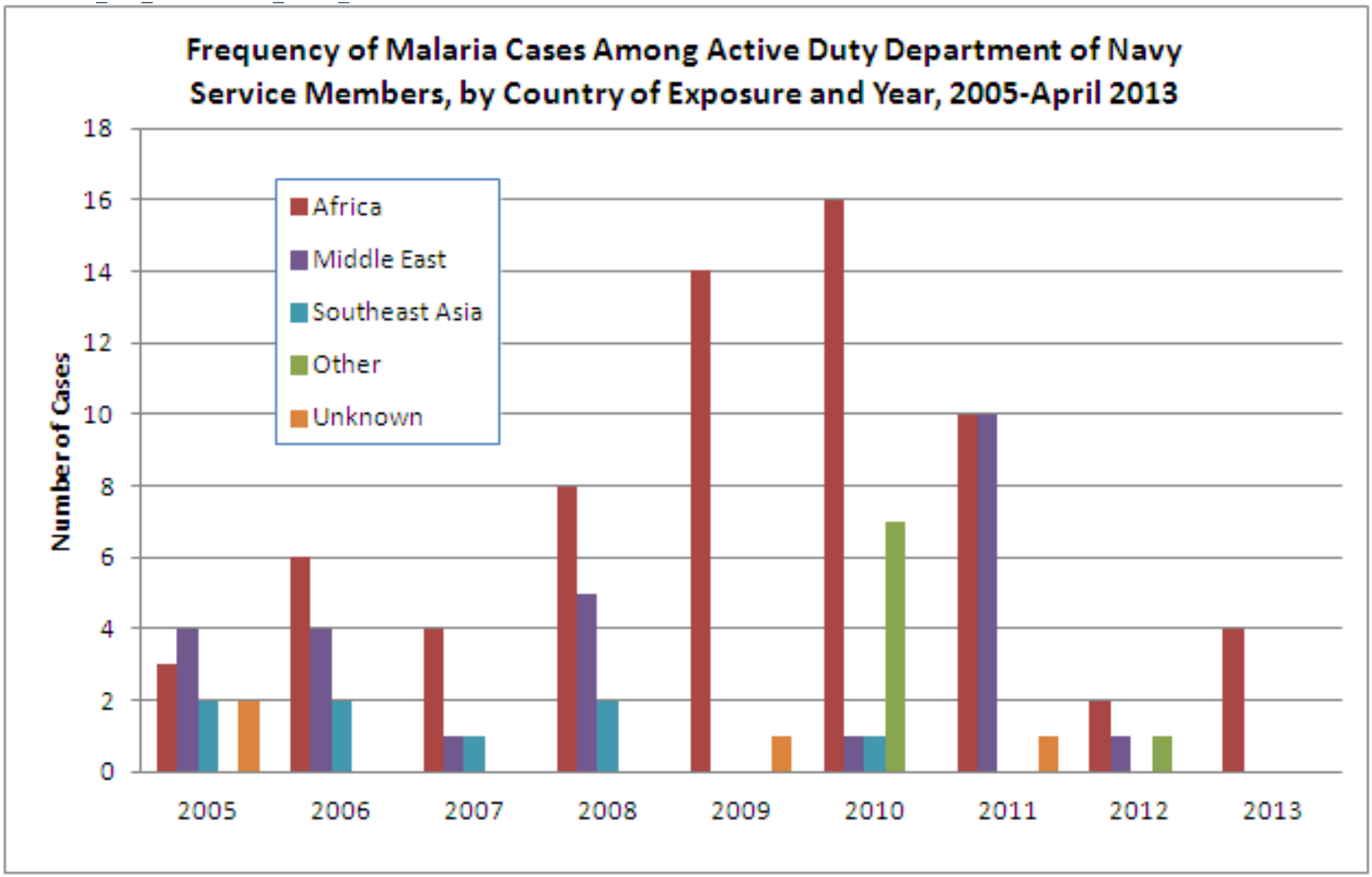
During 2000-2011, U.S. Air Force Public Health Officers reported 770 cases of vectorborne and zoonotic diseases diagnosed at Air Force medical treatment facilities. Cases of Lyme disease accounted for 70 percent (n=538) of all cases and most cases of Lyme disease (57%) were reported from bases in the northeastern U.S. and in Germany. The annual numbers of reported Lyme disease cases were much higher during the last four years than earlier in the surveillance period. The next most commonly reported events were malaria (74 cases), Rocky Mountain spotted fever (RMSF) (41), Q fever (33), dengue (23), and leishmaniasis (20). These five infections and Lyme disease accounted for 95 percent of the reported conditions. Military service members accounted for a majority of the reported cases for most of the conditions, but family members and retirees accounted for most of the cases of Lyme disease and RMSF. Most reports of vectorborne and zoonotic diseases did not include mentions of recent travel.

FIGURE 1. Cases of vectorborne and zoonotic diseases reported through the Air Force Reportable Events Surveillance System (AFRESS), 2000-2011

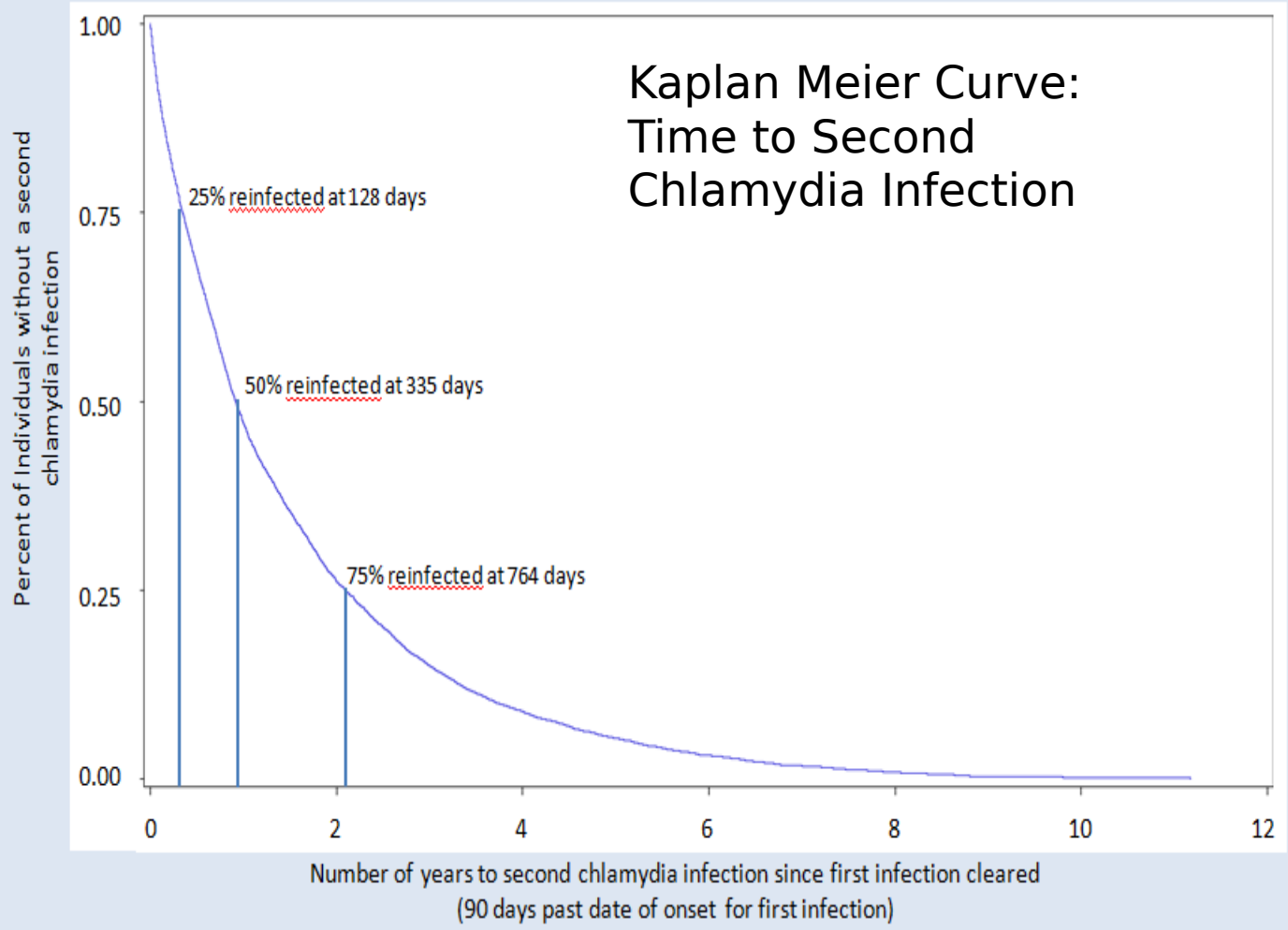


http://www.afhsc.mil/viewMSMR?file=2012/v19_n10.pdf#Page=11

Example #9: Track Changes in



Example #10: Examine Trends
Individuals with multiple cases of Chlamydia reported



From the 5,536 individuals who had at least two chlamydia infections:

- 25% were reinfected by 128 days (95% CI of 119-136 days)
- 50% were reinfected by 335 days (95% CI of 321-349 days), and
- 75% were reinfected by 764 days (95% CI of 729-799 days)

Example #10 (cont'd): Examining Trends

Variable Assessed	N	P-value	Individuals with reoccurring STI infections	Individuals with only one STI infection
Age at date of Sexually Transmitted Infection onset*	64,885	<0.0001	21.58 years	23.12 years
Gender+	62,795	0.0017	56% Female 44% Male	54% Female 46% Male

*(tested with T-test), +(tested with Chi-Square test of Independence)

Individuals with reoccurring STI infections had 8% higher odds of being female and were on average 1.5 years younger than individuals with only one STI infection.

Resources – Navy Disease Reports

- If you have any questions regarding available reports, contact NMCPHC at epi@nmcphc.med.navy.mil

- Sample of Available Reports
  - Quarterly Report of MERs submitted by BenCat
  - Quarterly Case Finding Report comparing lab positives to MERs by MTF and by diagnosis
  - MER trends by Month and by Syndrome
  - Weekly Influenza SITREP
  - Multi-drug Resistant Organism Summary Report
  - Many of these reports can be found on the web at: http://www.med.navy.mil/sites/nmcphc/epi-data-center

Resources – Army Disease Reports

- To receive any or all of the following reports, email the Disease Epidemiology Program at usarmy.apg.medcom-phc.mbx.disease-epidemiologyprogram13@mail.mil

  - US Army Public Health Command Reports
    - Army Vector-borne Disease Report
    - U.S. Army Influenza Activity Report
    - USAPHC ARDS Report
    - Each of the above reports can be found at http://phc.amedd.army.mil/whatsnew/Pages/PeriodicPublications.aspx

  - Disease Epidemiology Program Reports
    - Daily Reportable Medical Events Summary
    - Disease Epidemiology Program Daily Report
    - Monthly Reportable Medical Event Reports
    - USAPHC Zoonotic Disease Summary

Resources – Air Force Disease Reports

- If you have questions regarding available reports and studies contact USAFSAM/PHR, Epidemiology Consult Services at episervices@wpafb.af.mil
- Surveillance Data are available on the web at: https://gumbo2.wpafb.af.mil/epi-consult/reportableevents/
- AFRESS User-generated Reports can be accessed at: https://www.my.af.mil/afmsprod/portal/afress2/hub.cfm

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